

## **IX. ANALYSIS OF CORRIDOR IMPACTS**

This section discusses the impacts to natural, cultural, and socio-economic resources associated with selecting the proposed corridor (Alternative 1) and developing the trail.

### **A. Impacts to Physical Resources**

#### **Impacts to Geology/Topography**

One of the primary objectives of the Ice Age NST is to preserve and protect significant geologic, biologic, and archeologic features. Under the "preferred" alternative, an approved corridor would be designated that would allow permanent protection of some of these resources from disruptive land uses. Acquisition within this corridor of areas larger than a narrow trailway would at times be necessary to protect large features. This protection could be pursued by a number of cooperating interests. Development of a trail within this corridor will allow the public access to these geological resources and will provide an opportunity to interpret their significance within the landscape, possibly leading to greater public support for protection of these landscape features.

Under the "no action" alternative, loss of significant geologic, biologic, and archeologic features that are not currently protected by inclusion within public lands may occur due to gravel excavation or residential development now occurring at an increasing pace within the corridor. If a continuous trail is not developed, the public will lose the opportunity to learn about and appreciate these significant features.

#### **Impacts to Soils**

Soil type, slope and drainage all influence the suitability of an area to withstand the potential impacts of trail construction and use. The trail route chosen would attempt to minimize the possibility of compaction or erosion of the soil surface. In addition, soils which are rocky or frequently wet create difficult hiking conditions and would be avoided if possible.

Based on soil type, the potential impacts of trail development in the corridor can be rated. "Slight" implies only minor impacts and generally favorable conditions. "Moderate" refers to some potential for impacts, but these can be overcome through careful planning and design. "Severe" implies that an area is unfavorable for trail development without extensive mitigation measures. Soil associations and soils are rated as follows:

\*Kranski-Coloma-Mecan: "Moderate"

\*Wyocena-Rosholt: "Slight"

\*Plainfield-Richford-Kranski: "Slight"

\*Kennan-Rosholt: Kennan is "Slight", Rosholt is "Moderate".

\*Cathro-Markey-Seelyville: "Severe"

\*Oesterle: "Moderate"

\*Roscommon: "Severe" - ponding.

With proper layout of the trail on the landscape, erosion control techniques, planking or bridges, and trail monitoring, all potential impacts from constructing and using the trail can be mitigated to a non-significant level. Soils that are particularly unsuitable--such as on poorly drained areas--would be avoided if possible. If necessary, proper erosion control techniques such as sidehill construction along steep slopes, waterbars and drainage dips will be employed. If the trail must cross a wet area, planking and/or bridges would minimize the impacts from this crossing. With careful trail design and construction, terrestrial resources will not be significantly impacted and the trail will be blended into the landscape.

Trail use may cause a slight amount of soil erosion. Monitoring of the trail will identify any severe erosion problems so that appropriate erosion control actions can be taken. However, overall creation of the railway will protect soil resources from other land use impacts such as development, grazing, mining or other consumptive uses.

#### Impacts to Floodplains/Wetlands/Water and Water Quality

Small kettle lakes, marshes, and other wetlands are some of the features included within the proposed trail corridor in Waupaca and Portage Counties for interpretive and preservation purposes. The trail may need to cross or closely follow some of these features, but wetlands will be avoided when possible. Minimal impact on aquatic resources is anticipated when construction, use, and maintenance of the trail occurs. Where necessary, bridges will be constructed over creeks and streams, and boardwalks will be constructed to cross wetlands.

Under Alternative 1 (proposed corridor), depending on the trail's location, 7-8 bridges may be built (See Economic Resources). This type of action will be conducted with the use of appropriate erosion control techniques; placement of any kinds of fill materials or structures in wetlands will be subject to regulation. The rules in place that govern activities in Wisconsin wetlands include NR 1.95 and NR 103, Wisconsin Administrative Code. Any work on the bed or banks of navigable waters, including bridges, is governed under Chapter 30, Wisconsin Statutes. Permits from the WDNR will be needed for bridges, approaches, and work in wetlands. Additionally, the U.S. Army Corps of Engineers has jurisdiction over wetlands and waters of the United States under Section 404 of the Clean Water Act. Permits will be needed from the Corps of Engineers for bridges and boardwalks in wetlands.

Minimal impact on aquatic resources is anticipated when construction, use, and maintenance of the trail occurs. Existing segments of the Ice Age Trail have not created significant effects to wetlands as a result of either development or use.

Under the "no action" alternative similar impacts would occur, but it is difficult to quantify impacts since new and existing trail may be relocated due to factors such as displacement by development pressures and changes in ownership.

#### Impacts to Air Quality

Under both alternatives, air emissions may increase slightly due to increased automobile traffic by visitors to the trail, or may be reduced by people walking the trail instead of driving. However, over time, under the "preferred" alternative, the presence of a protected greenway would limit some development and therefore limit impacts to air quality.

In either case, since the ambient air quality of Portage and Waupaca Counties is good and current and anticipated use of the trail is moderate, the effect of the Ice Age Trail on air quality is probably negligible.

#### Impacts to Scenery/Aesthetic

Under both alternatives, the presence of the trail and its environs will have an impact on the visual resource. Differences between the two concern width of trailway and permanency. Under both, the trail will be located and designed to minimize adverse visual impacts and to maximize positive visual impacts.

The "preferred" alternative would permanently protect land from development. Its trailway would typically include an area greater than the width of the trail itself, thus if need be, provide a visual buffer from the surrounding landscape. Vegetative management plans could be implemented to further increase the trailway's scenic value over time. This would benefit not only the trail but the surrounding land uses.

Under the "no action" alternative, the location of the trail will be dependent on hand-shake or written agreements. This means that typically only the trail itself, or a very limited area surrounding the trail would be protected from development, and very likely only on a temporary basis. The natural area created by the trail may be limited in size or lost due to relocation of the trail.

## **B. Impacts to Biological Resources**

### **Impacts to Ecosystem**

Development of the "preferred" alternative in Waupaca/Portage Counties will create a protected, undeveloped trailway of diverse habitats (both uplands and wetlands) that will promote an increase in biodiversity within the project boundary limits. Because of the linear nature of the trail, this greenspace will serve as a wildlife corridor, allowing for movement between areas of protected land. It will prevent future fragmentation of the trail by encroachment of exurban developments.

Development of a trailway will have a less deleterious environmental effect than many of the existing land uses. Current agricultural land uses, including exposing soils to erosion and use of petro-chemicals, may have a negative effect on the land. The trailway will, however, create an improved biological habitat for birds and wildlife by preserving plant diversity, allowing natural processes to occur, and reducing fertilizer and pesticide use.

It is possible that the development of the Ice Age NST may act as an attraction and lead to increased residential development along the corridor. This increase in home building could have a negative impact on the plant and animal communities near the trail corridor. However, residential development in Waupaca and Portage Counties is based on other factors. Therefore, the affect of the trail in encouraging development is likely to be localized to areas directly adjacent to the trail corridor and is not significant on a larger scale.

Further land acquisition and development of the Ice Age NST into adjacent counties and beyond will extend the protected trailway. The cumulative effects of this would be to increase public recreational opportunities, and to promote increased biodiversity by discouraging habitat fragmentation and resource destruction.

Under the "no action" alternative, if the IAPTF is able to obtain permission from private landowners to cross their property, the ecosystem may temporarily benefit if the trailway is wide enough; however, this is not usually the case. Changing landownerships and development would always be a threat, causing a fragmentation of the trailway and ecosystem.

### **Impacts to Wildlife**

In general, under the "preferred" alternative, securing a trailway would have no significant effects on the wildlife within the proposed corridor. The area that the proposed corridor is located in is rural with the dominant land use being agriculture with pockets of woods. This type of land use creates good wildlife habitat particularly for "edge" species which dominate.

However, if the land within the proposed corridor does not retain its rural character and

development pressure grows, existing wildlife habitat will become increasingly fragmented. Securing a continuous corridor in public ownership would help maintain wildlife habitat.

The primary effects on plants and wildlife would be the occasional sighting of wildlife by users of the trail. It is possible that some wildlife may be disturbed during the use of the trail, but this disturbance is short term and most wildlife will become accustomed to the users' occasional presence. It has been the experience of the Ice Age Trail that users are concerned and aware of the surrounding environment and take great precautions to preserve the habitats that surround the trail.

Under the "no action" alternative, attaining a continuous, permanently protected trailway would be unlikely. If existing land use stays the same, the "no action" alternative would be the same as the "preferred" alternative. However, without a continuous trailway, and if development pressures increase, existing wildlife habitat will become increasingly fragmented. This fragmentation will cause sensitive species to decrease and edge species to increase, thereby reducing biodiversity.

#### Impacts to Fisheries

With proper and effective trail design, erosion control during construction, proper placement of bridge crossings, etc., there should be no adverse effects to the fishery resources of the area surrounding the Ice Age Trail. Proper maintenance of the trail, especially in hilly areas near surface waters, will help prevent impacts to the fishery resources due to erosion and sedimentation.

#### Impacts to Rare, Threatened, and Endangered Species

The "preferred" alternative would minimally impact endangered, threatened, and special concern resources. According to the U.S. Fish and Wildlife Service, the proposed corridor will not negatively impact any of the Federally-listed species present in both counties. In some cases, such as the Karner Blue butterfly, the trail may benefit the species by enhancing and permanently protecting their environment. The opportunity to protect these resources under the Ice Age NST program would be lost if the "no action" alternative were chosen. In either case, trail developers will work closely with and address the concerns of the U.S. Fish and Wildlife Service and WDNR Bureau of Endangered Resources, when the trail is developed or maintained where these resources have been identified.

## **C. Impacts to Cultural Resources**

### **Impacts to Historic Properties/Archeological Sites**

Based on prior experience, the NPS Midwest Archeological Center believes that an archeologic survey prior to trail construction is of little value. Trail location and construction impacts a very narrow area--about 3 to 5 feet wide. During construction, even a carefully flagged area is often shifted slightly by the construction crew to avoid a tree, boulder, or other obstruction. Trails are also normally constructed using hand tools rather than heavy mechanical equipment. Therefore, disturbance to the soil is minimal and the opportunity for spotting a resource prior to damage occurring is much greater. A post-construction survey is more accurate in identifying any suspect sites, allowing the trail to be relocated within the corridor or for other appropriate mitigating measures to be taken.

Under either alternative, trail construction crews will be educated, to the extent possible, to spot both pre-historic and historic resources and instructed to immediately stop any disturbance activities until an archeologist can be consulted. If any sites are discovered either during the archaeological survey or during trail construction, the trail will be relocated within the corridor or other mitigating measures will be taken in consultation with the Wisconsin State Historic Preservation Officer (SHPO).

An archeological survey will be required prior to any major construction activities, such as parking lot development or excavations for major bridge footings.

The NPS and the Wisconsin SHPO are in the process of developing a programmatic agreement which will provide for and sanction this approach for the Ice Age NST.

## **D. Socio-economic Impacts**

### **Impacts to Land Use/Land Ownership**

Land acquired or protected for the trail will provide opportunities for neighbors, non-residents, and non-owners to have access to the glacial features along the trail. By protecting lands for the trail under the "preferred" alternative, development is restricted and resources are protected. The project may, however, be such an attractive and desirable resource that building pressure around it may increase. In some areas outside of Waupaca and Portage Counties the presence of the trail has raised neighboring land values. The Ice Age NST is a permitted use in all zoning classifications (ss. 236.292 Wis. stats).

Securing lands for the trail may change current land uses and may preclude other future potential uses. In some cases the land use will change from agricultural to conservation/recreational. This means currently cultivated land will eventually revert to native plant communities. Increasing plant diversity and decreasing the use of fertilizers and

pesticides will create an improved biological habitat for birds and wildlife.

In other cases, land may be acquired for the trail with portions of the land leased back for agricultural purposes, preserving the existing land use.

Land use and ownership patterns are changing in Waupaca/Portage Counties. Increasingly farms are being subdivided for residential, second homesites, and recreation. Trends show that in some areas this change is occurring rapidly. Under the "no action" alternative, this trend will continue with the subsequent loss of opportunities to build the trail. Completion of a permanent, continuous trailway would be unlikely.

### Impacts to Developed Areas/Communities

Providing the public with recreational opportunities may increase the numbers of people that flow through the region. Additional trailheads with parking areas may be developed. The increased public use of the area may benefit local businesses.

Although the trail may attract some new commercial establishments to the local communities that cater to trail users, a significant increase in that type of development is not expected. As awareness and use of the Ice Age NST increases, some economic benefits to area businesses will result from spending by day hikers and overnight backpackers.

Benefits to communities would not be as great under the "no action" alternative since completion of a continuous Ice Age NST through Waupaca/Portage Counties would be unlikely.

### Impacts from Visitor Use and Protection

As a result of the establishment of the trail, increased human access to many areas is expected. Along with this increased activity some secondary impacts may occur such as litter and interruption of wildlife use patterns. These impacts will be minimal because, by its nature, the Ice Age NST is designed and managed to provide for low-impact experiences.

The trailway passes through county and State recreation areas. These areas and nearby park and recreation facilities may receive additional visitors as a result of the trail. These facilities should not be greatly affected. Conversely, the trail should provide additional recreational opportunities to park visitors.

The projected use of the trail is difficult to estimate. Based on patterns of use on other trails it is likely that use will be highest near populated areas or existing recreation areas. In addition, conflicts between various user groups could develop. This is also difficult to predict, because perceived conflict is directly related to volume of use. The trail will be

monitored by trail volunteers, local law enforcement agencies, or WDNR enforcement officers on WDNR owned lands, if necessary.

The physical and social carrying capacities of the trail are not known and to some degree may be dependent upon the width of the trailway actually acquired, volume of use, and other factors. However, use of the Ice Age NST in other areas has not resulted in deterioration of the resource or the user experience.

As the trail is developed and as it becomes more widely known, users and patterns of use can be studied and monitored, and actions can be taken as necessary to resolve user conflicts or other conflicts that develop.

In the case of an injury to a trail user or a fire along the trail there may be the need for an emergency response. The closest community would respond to such an emergency. The risk of such an event occurring is minimal. The risk of environmental damage from a response to such an event is also minimal.

Some neighboring landowners are concerned about the possibility of trail users trespassing onto their lands. They are also concerned about loss of privacy on their lands. The proposed acquisition zone of the trailway will provide natural buffer, and fencing and signage can be used to direct use. Volunteers will monitor the trail and provide information to users to discourage inappropriate uses and activities. The appropriate local jurisdiction will be responsible for any law enforcement responses. Conservation Wardens will have enforcement authority on lands in WDNR ownership.

Under the "no action" alternative, trail development and management responsibilities are the same as for the "preferred" alternative, therefore potential impacts would be the same.

### Impacts to Public Health and Well Being

A new social environment will be created by providing the public with access to the surrounding resources for purposes of outdoor recreation. The trail will provide links to several area parks and recreation lands. The trail will be primarily used as a hiking trail. Other uses that will be permitted on the trail include bird watching, interpretive walks, and education.

The trail will enhance public awareness of Wisconsin's glacial landscape through interpretation of the glacial features. It will provide the State of Wisconsin with an outstanding recreational trail and provide a backbone for a State-wide trail system.

There are concerns over potential conflicts between trail users and neighboring agricultural management practices. For example, farmers are concerned about how and to what extent the trail and its users will impact their management practices (pesticide application, manure

spreading). To address these concerns, the trailway typically provides a buffer between the trail and neighboring land owners.

Under a written permission or handshake agreement arrangement, as would occur under the "no action" alternative, the immediate trail (2 feet) is often the only area set aside for trail purposes. Without buffer, or the ability to obtain buffer, it would be difficult to protect users from adjoining land-uses, and vice versa. User safety and satisfaction could potentially be so impaired that the trail would not have the attractiveness and quality of a NST.

## **E. Economic Impacts**

### **Land Acquisition/Protection**

The WDNR will make matching Stewardship grants to the IAPTF, enabling them to acquire lands within the corridor for the trail. The WDNR will also accept gifts of Ice Age NST lands, to be dedicated and held in trust under the provisions of s. 23.293 Wis. Stats. Dedication means that the WDNR will take a permanent interest in the lands, and subsequently release matching funds into a separate account for further Ice Age NST acquisition under the provisions of ss. 23.293 and 23.17 Wis. Stats. The match-grant funds may be used at the discretion of the WDNR for Ice Age NST acquisition purposes, including direct acquisition. Accrued match-grant funds resulting from dedications in Waupaca/Portage Counties may be used anywhere along the trail, depending upon priority needs. They may also be used outside of Waupaca/Portage Counties.

Acquiring a protected trailway for the trail is a long-term proposition. In the short term, the IAPTF will continue to route the trail on less than permanent rights-of-way through agreements, leases, and temporary easements. This is how the trail has been established to date.

The most significant cumulative negative effect as the project extends into other counties is the cost, which in part must be borne by taxpayers, for the purchase of additional properties, and the aids in lieu of taxes which WDNR will pay for all lands that come under its ownership.

No additional lands would be purchased for the trail using state funds outside of existing State properties under the "no action" alternative.

### **Taxes**

Acquisition of land or easements by public agencies is often perceived by landowners or townships as threatening, detrimental, or resulting in a loss in tax base.

The local tax base should not be significantly affected by this action. If land is gifted to or acquired by the State, property tax revenues on that land will be paid under a payment in lieu of taxes provision of State law. If land is acquired by the IAPTF, a non-profit foundation, a petition to exempt the land from property taxation could be filed but it is the current policy of the IAPTF to pay property taxes on all Ice Age NST lands it owns. If Congress should grant the NPS the authority to acquire land for the Ice Age NST, that land would be exempt from property taxation.

Economic development and activity spurred by trail development and use will increase revenue from local sales taxes.

Under the "no action" alternative the Ice Age Park and Trail Foundation would continue to acquire and pay taxes on lands for the trail. However, since the land would not be dedicated to the State, over time as the Foundation continued to acquire lands, their taxes would pose an unfair burden given the public benefit of the project.

#### **F. Summary of Incremental Impacts**

The Ice Age NST corridor planning process for Waupaca and Portage Counties is just part of the overall implementation of the trail across 26-27 counties. Statewide, of the projected 1,000 miles, approximately 500-miles of the trail has been completed over the last 40-years. Much of the Ice Age Trail has been, and continues to be, developed on private and public property regardless of a corridor planning process. However, approval of this Federal and State sanctioned plan will allow state funds to be used to acquire private lands from willing sellers to permanently protect a trailway in Waupaca and Portage Counties. With the continued development of the trail in other counties, there will be incremental impacts. This section serves to summarize some of these impacts.

- The continued planning and development of the Ice Age NST through 26-27 counties will require a commitment of funds to protect lands for the trail. Funds for acquiring lands will come primarily through the IAPTF and, when the corridor planning process is applied, through the State Stewardship Program. The State Stewardship Program provides 5,000,000 dollars to be spent on the trail over a 10-year period. The current State Stewardship Program expires in 1999.
- Wisconsin State Law also provides for the WDNR to accept lands for permanent dedication for Ice Age NST purposes. The value of the dedicated lands releases additional funds to be used for further Ice Age NST acquisitions. As more dedications and subsequent acquisitions occur, WDNR will eventually be the owner of many segments of the Ice Age NST. For lands it owns in fee simple, WDNR pays aids in lieu of taxes. Therefore, acquisition of Ice Age NST lands by WDNR will not have a tax burden on local units of government, but as more lands are acquired, there may be a substantial tax obligation to WDNR.

- Some farmland will be converted to trailway as a result of utilizing lands for the Ice Age Trail. These lands will become, in essence, banked since they will be returned to their natural state and will not preclude future uses. This natural state will increase wildlife habitat and biodiversity.
- The IAPTF is a 40-year old organization whose primary focus is to protect, develop and maintain the Ice Age NST. The continued development of the trail in the 26-27 counties will require a greater commitment by the Ice Age Park and Trail Foundation to recruit more members to develop and maintain trailway.
- Time is an important factor in the development of the trail. The continued implementation of the corridor planning process will speed up consensus on where the trail is located, as well as its acquisition and development. Shortening the time to complete the Ice Age NST project will ultimately decrease its cost given rising land values.
- Designation of this corridor in Waupaca and Portage Counties will determine the location of the south end of the trail in Marathon County and the north end of the trail in Waushara County. The general alignment of the trail in Waupaca and Portage Counties has been known for approximately 15-years by State and County planners, and local trail chapters in the adjoining counties. Adjoining county trail chapters have been planning their trail segment to interface with the Waupaca/Portage trail. The IAPTF works with the local trail chapters, NPS, and WDNR to assure the continuity of the trail throughout the state.

Implementation of this corridor plan will require the commitment of human, natural, and fiscal resources. This commitment is justified given the benefits to the public in terms of opportunities for recreation and education, as well as preservation of national and state significant natural resources. Because this project is a partnership project composed of Federal, State, regional, county, local, and volunteer participants, its overall economic and management impacts are shared and therefore greatly diminished.